

### **REMARKS**

The present *Supplemental Amendment* further supplements the *Supplemental Amendment* filed March 20, 2006, and is submitted further in response to the Official Action dated February 9, 2006.

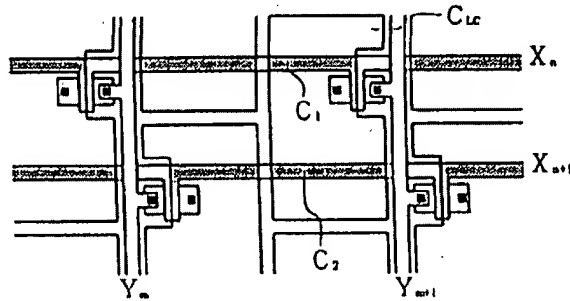
The Applicant notes with appreciation the consideration of the Information Disclosure Statements filed on May 29, 1998; October 13, 1998; June 2, 1999; September 13, 1999; May 18, 2000; September 6, 2000; November 2, 2000; January 29, 2001; April 9, 2001; July 17, 2001; September 12, 2001; February 28, 2002; October 1, 2002; October 11, 2002; March 5, 2003; and November 14, 2005.

Information Disclosure Statements were filed October 2, 2006 (received by OIPE October 4, 2006) and March 20, 2007 (received by OIPE March 21, 2007). Consideration of these Information Disclosure Statements is respectfully requested.

Claims 1, 3, 5 and 50-158 were pending in the present application prior to the above amendment. Claims 51, 52, 56, 57, 59, 60, 63, 64, 68, 69, 71-73, 76, 77, 79, 80, 82-84, 87-91, 93, 94, 96, 97, 101, 102, 104, 105, 108, 109, 113, 114, 116, 117, 119 and 120 have been canceled without prejudice or disclaimer, new dependent claims 159-165 have been added, and claims 143 and 149 have been amended to correct a typographical oversight. The Applicant appreciates the indicated allowability of claim 5 and notes that dependent claims 124, 127, 132, 136, 138, 140, 146, 151 and 157 also recite the allowable subject matter and are therefore also believed to be in condition for allowance. Accordingly, claims 1, 3, 5, 50, 53-55, 58, 61, 62, 65-67, 70, 74, 75, 78, 81, 85, 86, 92, 95, 98-100, 103, 106, 107, 110-112, 115, 118 and 121-165 are now pending in the present application, of which claims 1, 5, 50, 53-55, 58, 61, 62, 65-67, 70, 74, 75, 78, 81, 121, 125, 129, 133, 137, 139, 142, 148 and 153 are independent. For the reasons of record, all claims are believed to be in condition for allowance. Favorable reconsideration is requested.

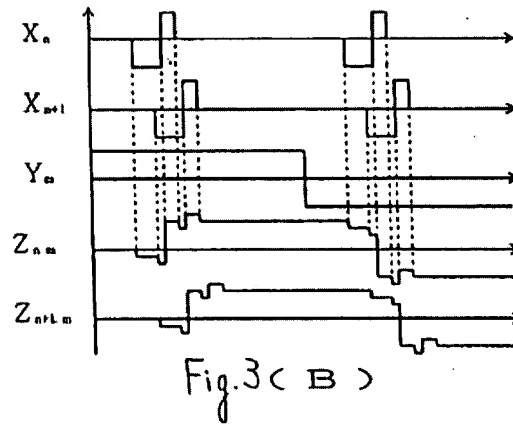
As noted during the interview, new independent claims 121, 125, 129, 133, 137 and 139 (and dependent claims 143, 149 and 154) recite that a first pixel electrode is

provided on an opposite side of a data line to a second pixel electrode. This feature is shown, for example, in Figure 1(B) of the subject application below.



Independent claims 121, 125, 129, 133, 142, 148 and 153 further recite that a bipolar pulse is applied to the gate line of n-th row and that the bipolar pulse includes a first pulse and a second pulse having an opposite polarity to the first pulse. This feature is supported at least by page 11 of the specification and Figure 3(B), shown below. It is respectfully submitted that the prior art of record fails to disclose or suggest this feature, alone or in combination with other features of these claims, and that the claims are allowable for this further reason.

applying a bipolar pulse comprising two pulses having opposite polarities to each other to said first gate line. The pixel electrode is superposed on the first gate line with an insulator therebetween.

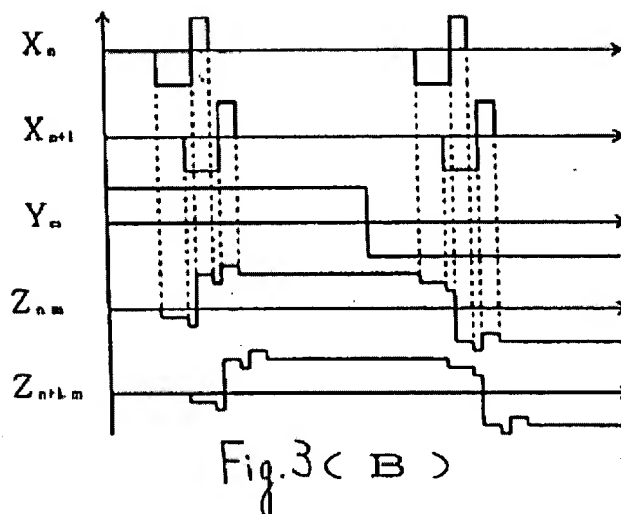
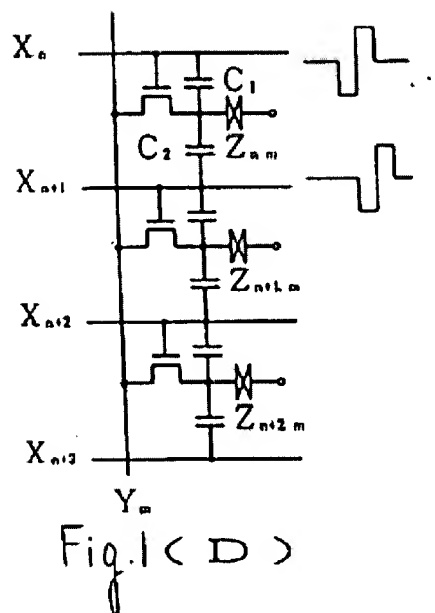


In addition to the above, independent claims 121, 129, 133, 142 and 153 recite that two bipolar pulses are applied. More specifically, these claims recite that a first bipolar pulse is applied to the gate line of n-th row during a first period, a second bipolar pulse is applied to the gate line of (n+1)-th row during a second period, and the second period appears later than and partly overlaps the first period. This feature is supported by at least pages 11-12 of the specification, and Figures 1(D) and 3(B), shown below.

The operations of these circuits are shown in Figs. 3(A) and 3(B). Fig. 3(A) shows a driving operation for the circuit as shown in Figs. 1(A) and 1(C), and Fig. 3(B) shows a driving operation for the circuit as shown in Figs. 1(B) and 1(D). In a case where there is a time lag between a pulse which is applied for the purpose of driving the picture element (TFT) concerned and a pulse which is applied for the purpose of canceling

11

(offsetting)  $\Delta V$ , the voltage is temporally varied, but returned to its original state. Therefore, affection of such variation of the voltage on an image is very slight, and thus it is visually unidentifiable.



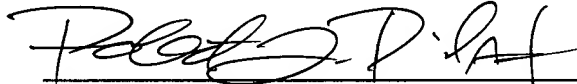
Independent claims 142, 148 and 153 further recite that a pulse width of the first pulse is different from a pulse width of the second pulse. This feature is supported by at least Figure 3(B), shown above.

Finally, new dependent claims 159-165 are added herewith that further recite a driver circuit connected with gate lines for generating one or more bipolar pulses applied to the gate lines. This feature is disclosed in the subject application, for example, in the paragraph bridging pages 11-12, which discusses a driving operation in accordance with the present invention. Although the details of the driving circuitry are not specifically disclosed, such circuitry to generate the waveforms disclosed and claimed in the subject application was well within the level of ordinary skill in the art at the time the application was filed. It is well established that "not everything necessary to practice the invention need be disclosed. In fact, what is well-known is best omitted. *In re Buchner*, 929 F.2d 660, 661, 18 USPQ2d 1331, 1332 (Fed. Cir. 1991). All that is necessary is that one skilled in the art be able to practice the claimed invention, given the level of knowledge and skill in the art." MPEP 2164.08. It is respectfully submitted that the prior

art of record fails to disclose or suggest a driver circuit that generates one or more bipolar pulses applied to gate lines of an electro-optical device, as claimed, and that these claims are allowable for at least this reason.

Should the Examiner believe that anything further would be desirable to place this application in better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number listed below.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'Robert L. Pilaud', written over a horizontal line.

Robert L. Pilaud  
Reg. No. 53,470

Robinson Intellectual Property Law Office, P.C.  
PMB 955  
21010 Southbank Street  
Potomac Falls, Virginia 20165  
(571) 434-6789